Bioenergy Renewable Auction Mechanism (BioRAM) Request for Offers

June 3, 2016
(Filing Date)

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I. Overview

Overview

Pacific Gas and Electric Company ("PG&E") is issuing a Bioenergy Renewable Auction Mechanism (BioRAM) Request for Offers ("RFO") in response to the Governor's Emergency Proclamation on drought and tree mortality. This protocol outlines the parameters governing the solicitation.

This solicitation is governed by Commission Decision ("D.") 14-11-042 and Resolution E-4770 (the "BioRAM Decision").

PG&E seeks Offers for the sale of Product[1] for a contract term of either 5 years, with or without an Extension Option (existing facilities only); or 10, 15, or 20 years for either existing or new facilities. For new facilities, the Project must be commercially operational no later than 36 months following final and non-appealable CPUC Approval of the PPA associated with the Project. For existing facilities, the Project must begin deliveries no later than 12 months following final and non-appealable CPUC Approval of the PPA associated with the Project.

For existing facilities that choose the five year contract term with Extension Option, PG&E will have a contractual option to extend the contract for consecutive one-year terms, up to a cumulative total of 10 years. As described in PG&E's most recently Commission approved least-cost-best-fit ("LCBF") methodology, PG&E has a preference for Offers with terms of less than 20 years.[2]

The solicitations for all three Investor Owned Utilities ("IOUs") will be conducted simultaneously. An entity submitting a bid into this RFO (a "Participant") may bid into all three IOU's solicitations. However, if PG&E notifies a Participant its Offer has been selected, the Participant must submit a signed PPA and provide all required documentation as shown in Appendix VIII to the PPA to PG&E within 10 calendar days of selection notification and withdraw from the other RFOs. PG&E reserves the ability to place some Offers on a waiting list to account for the potential that some selected Offers could be withdrawn prior to submission of signed PPA.

[1] Product means the electricity generated by a Project (the eligible renewable energy resource described in an Offer, together with all capacity and ancillary products, services or attributes which can be produced by or associated with the Project, and any other attributes required by the California Public Utilities Commission ("CPUC") and/or the California Energy Commission ("CEC") to count the electricity toward PG&E's Renewable Portfolio Standard ("RPS") requirements.

[2] PG&E's Final 2014 RPS Procurement Plan, Apprndix H (2014 RPS Solicitation Protocol), Attachment K (LCBF Description), p. 15 (describing contract tenor consideration).

For the purpose of this solicitation, reference to the term "PPA" may jointly refer to the Bioenergy Procurement Rider and Amendment Form and PG&E's RAM 6 PPA.

Schedule

1. Schedule Overview

The BioRAM Decision requires that the three IOUs hold their BioRAM auctions simultaneously. The final RFO schedule is subject to change to conform to any CPUC requirement and otherwise at the discretion of PG&E at any time. PG&E will endeavor to notify Participants of any schedule change via notification on PG&E's BioRAM RFO Website.[2]

As further described below, Participants may register at PG&E's RFO website to receive notice of these and other RFO changes by electronic mail. PG&E will have no liability or responsibility to any Participant for any change in the schedule or for failing to provide notice of any change.

The expected launch for this RFO is May 15, 2016 if:

- CAL FIRE provides the initial high hazard zone designations, and
- The Commission approves the IOUs Tier 2 Advice Letter by May 1, 2016

Otherwise, the launch for this solicitation will be two weeks after both conditions are met.

The expected schedule for this RFO is (all times are in Pacific Prevailing Time ("PPT")):

Date/Time[3]	**Event**
Ongoing	Participants may register online to receive notices regarding the RFO.
2 week after two conditions have been met	PG&E issues the RFO (Issuance Date).
TBD	Bidders' Conference for RFO (via webinar).
Issuance Date + 30 days	Offers Due. Offer(s) must be submitted to the online platform at Power Advocate. Offer evaluation begins.
Issuance Date + 75 to 100 days	PG&E selects offers. PG&E notifies Selected Participants and any Waitlisted Participants (Notification Date).
Notification Date +	Submittal of Signed PPA. Selected Participants that wish to

[2] http://www.pge.com/rfo

[3] Dates after the notification date are subject to change.

Date/Time[3]	**Event**
5 days	continue participation in PG&E's RFO must return a signed PPA and required documentation as shown in Appendix VIII of the PPA via Power Advocate.
Notification Date + 30 days	PG&E executes PPAs (Execution Date).
Execution Date + 30 days	Advice Letter Filing for executed PPAs.

2. RFO Process

a. Registration. Participants may register online to receive announcements and updates about this RFO. Go to the BioRAM RFO Website and click on RFO Bidder Registration. Alternatively, go directly to www.pge.com/rfo.

b. Bidders' Webinar. PG&E will hold a Bidders' Webinar to review key Protocol and PPA items related to this solicitation.

c. Offers Due. Participant's Offer must be submitted via Power Advocate and must include all of the documents described in Section VII. By responding to this RFO, the Participant agrees to be bound by all of the terms, conditions and other provisions of this RFO and any changes or supplements to it that may be issued by PG&E.

d. PG&E Selects Offers. Participants whose Offers have been selected will be notified via email. PG&E will select Offers within the Product Category described below according to the evaluation criteria described in Section IV. Some of the next-best Offers beyond those selected may be placed on a waiting list to be selected in order of priority should any selected Offers fail to complete the RFO process.

e. Submittal of Signed PPA. Participants with selected Offers must submit a signed PPA with all required documentation in accordance with the timeline described above. If a Participant fails to submit a signed PPA with required documentation for one or more Selected Offers as described above, PG&E will disqualify the originally selected Offer and will select the next-best Offer on the waiting list. A waitlisted Participant whose Offer is selected must return a signed PPA and the required documentation in accordance with the timeline described above.

f. Execution and Regulatory Approval. Once PG&E has fully executed each of the PPAs resulting from this RFO, it will submit all such PPAs to the CPUC for approval via a Tier 2 advice filing.

Disclaimers for Rejecting Offers and/or Terminating this RFO

This RFO does not constitute an offer to buy and creates no obligation to execute any PPA or to enter into a transaction under a PPA as a consequence of the RFO. PG&E shall retain the right at any time, at its sole discretion, to reject any Offer on the grounds that it does not conform to the terms and conditions of this RFO and reserves the right to request information at any time during the solicitation process.

PG&E retains the discretion, subject to, if applicable, the approval of the CPUC, to: (a) reject any Offer on the basis, including but not limited to the basis that an Offer is the result of market manipulation or is not cost competitive or any other reason; (b) modify this RFO with the approval of the CPUC, the form PPA as it deems appropriate to implement the RFO and to comply with applicable law or other decisions or direction provided by the CPUC; and (c) terminate the RFO should the CPUC not authorize PG&E to purchase Products in the manner proposed in this RFO. In addition, PG&E reserves the right to either suspend or terminate this RFO at any time if such suspension is required by or with the approval of the CPUC. PG&E will not be liable in any way, by reason of such withdrawal, rejection, suspension, termination or any other action described in this paragraph to any Participant, whether submitting an Offer or not.

II. RFO Goals

PG&E is seeking to procure a minimum of 20 MW in this solicitation.

In addition to the product definitions set forth in the PPA, and without implying any amendment to those product definitions, Products from BioRAM Projects must fall within the Baseload Product Category definition:

- "Baseload" Projects will have a generation profile demonstrating an annual capacity factor of 80% or greater (e.g., geothermal/biomass).
- Further, only facilities burning woody biomass are eligible to participate in this solicitation.

Additionally, as more particularly described in the PPA, each Offer should be identified as a full buy/sale transaction or an excess sales transaction, as follows:

- "Full buy/sale" transaction means 100% of the energy production, net of station use, is sold by the generator to PG&E.
- "Excess sales" transaction means that the output from the Project serves the generating facility's own on-site load first and then sells the remaining energy production to PG&E.

New BioRAM Projects must achieve commercial operation within 36 months of the Effective Date of the associated PPA. Existing projects must be able to begin commercial operation within 12 months of the Effective Date of the associated PPA. However, the

Resolution states that preference in the evaluation process can be given to projects with either an earlier online date, or commitment to meet the fuel requirements specified on an accelerated basis.

III. Eligibility

PG&E is seeking Products that meet the specific eligibility requirements below. The Participant's Offer must demonstrate that the Project meets each of the items in this Section III for the BioRAM program. PG&E will not be entertaining any storage related offers in this solicitation and will select from eligible Offers only.

All Projects must have the capability to comply with Section 3.1(q) (Seller Equipment Required for Curtailment Instruction Communications) of the PPA.

Project Design Eligibility Requirements: BioRAM

1. Existing and new generation facilities are eligible. An existing generating facility must be certified as an eligible renewable resource ("ERR").[4] PG&E encourages new resources to apply for pre-certification.

   Existing facilities may participate provided that, if the project is currently under contract, the existing contract will need to be terminated prior to PG&E accepting deliveries under the BioRAM PPA. PG&E will agree to early termination of existing legacy Standard Offer Power Purchase Agreements (PPA) subject to minimum damage payments specified in the PPA (e.g. Section 2 and Appendix E-11 of the Interim Standard Offer Four PPA). Existing contracts must a) expire within 24 months of execution, or b) have been subject to a current or expired fixed pricing amendment.

2. The Project must be located within California and directly connected to the CAISO or dynamically scheduled into the CAISO.

3. Neither the Project's nameplate capacity nor the Offer's contract capacity may be less than 3 MW. There is no cap on maximum eligible project size.

4. Wood burning facilities are eligible. Multi-fuel facilities restricted to woody biomass fuel are also eligible.

5. Facilities must demonstrate that they will be able to meet the following minimum

[4] The CEC is responsible for certifying ERRs for purposes of compliance with the RPS program. The CEC has published Guidebooks to explain its criteria for RPS eligibility and process for ERR certification. The CEC's "Renewable Portfolio Standard Eligibility Guidebook" 7th Edition publication number CEC-300-2010-007-CMF, January edition, is available at: http://www.energy.ca.gov/renewables/documents/.

levels of the fuel source that should come from CAL FIRE designated high hazard zones as approved by the CPUC[5] in the specified year of operation of the contract: 40% in 2016, 50% in 2017, 60% in 2018, and 80% for each subsequent year. Quarterly fuel attestations signed by both Seller and a Registered Professional Forester (or other mutually agreed-upon process) must be submitted as evidence of having met the minimum percentages of High Hazard fuel.

6. New resources must begin delivery within 36 months of the Effective Date. Existing resources must begin delivery within 12 months of the Effective Date.

Project Viability Eligibility Requirements

1. Interconnection

In order to participate in this RFO, Participants must have an executed Interconnection Agreement, a completed Phase II interconnection study[6] (or equivalent[7]), or documentation showing that the Project passed the Distribution Provider or CAISO Fast Track screens[8] at the time of Offer submittal.

Participants that bid in to the RFO must remain active in the applicable interconnection queue until the project's required network upgrades have been completed. Participants must submit the applicable interconnection study with any applicable appendices with the Offer. If an interconnection agreement for the Project exists, it should be submitted along with the most recent interconnection studies.

PG&E is accepting offers for projects with Full Capacity Deliverability Status ("FCDS"), Partial Capacity Deliverability Status ("PCDS"), and energy-only ("EO") status.

Participants offering fully or partially deliverable resource must provide documentation that the Project has received the FCDS or PCDS or provide documentation that the project is in the process of obtaining that deliverability, including any submitted requests for deliverability to the CAISO. The Participant must provide evidence of at least one of the following:

[5] High hazard zones are areas of the state representing a high risk for wildfire and falling trees, resulting from severe drought conditions and bark beetle infestation.
[6] Passing of an Electrical Independence Test is not sufficient unless the Project has a completed Phase II interconnection study or equivalent.
[7] For example, a Facilities Study.
[8] *Submission* of an Interconnection Request into a Fast Track process is not sufficient unless the project has *passed* the Fast Track screens or has a completed study equivalent to a Phase II interconnection study.

a) An executed Interconnection Agreement or Amendment to an Interconnection Agreement that reflects the offered deliverability status[9];
b) Application for deliverability with a **completed** deliverability study (i.e., Phase II study or equivalent) with a deliverability status that matches the Offer;
c) A **completed** deliverablity assessment in the annual process that indicates that the project is deliverable pursuant to ISO Tariff Section 9.2 of Appendix DD; or
d) Documentation that the Project has **received** deliverability through the CAISO's Deliverability for Distribution pursuant to ISO Tariff Section 40.4.6.3.

Providing documentation that an application or request for FCDS or PCDS has been submitted through any CAISO annual process is **not** sufficient **unless** there is a finding of deliverability at the time of Offer submittal. Projects bid in as fully-deliverable must be fully deliverable by the date of deliverability designated in the Offer and need not be fully deliverable as of commercial operation.

Projects bidding as energy-only do not have to pursue any deliverability studies.

Repowering projects must provide an attestation that their plans can be accommodated under the existing interconnection agreement, or that they have received their completed Phase II study for any increased capacity at the time of offer submittal. *In addition, projects must provide an acknowledgment that they understand they will be in default under the PPA if the CAISO does not act as expected and they miss their online date after excused delays.* For further information, refer to Section 12 of the CAISO Business Practice Manual (BPM) for Generator Management.[10]

Existing projects will need to ensure that they can participate in the CAISO markets prior to commercial operation. Existing projects will therefore need to fulfill a set of requirements listed in the CAISO's New Resource Implementation Checklist[11], ensure all required CAISO metering and telemetry is installed, and potentially convert their Interconnection Agreement to a wholesale interconnection agreement under FERC jurisdiction.

Projects must obtain a wholesale interconnection agreement under FERC jurisdiction prior to operation. Note that Electric Rule No. 21 is not under FERC jurisdiction and does not result in a wholesale interconnection agreement under FERC jurisdiction. Wholesale procedures, both the CAISO and PG&E Wholesale Distribution Tariff

[9] Where the Interconnection Agreement does not reflect the Deliverability offered, the Participant must provide additional documentation from the CAISO verifying the deliverability
[10] http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Generator%20Management

[11] CAISO's new resource implementation process is described at: http://www.caiso.com/participate/Pages/NewResourceImplementation/Default.aspx

generation interconnection procedures, can also be viewed on the PG&E website at: http://www.pge.com/wholesale/.

2. Site Control

Participants must attest that they have secured site control for the entire delivery term of their Project as part of their Offers. Requirements to demonstrate such site control are detailed in Appendix C to this solicitation. Examples of site control include: (1) ownership of the site, a leasehold interest, or a right to develop a site for the purpose of constructing a generating facility; (2) an option to purchase or acquire a leasehold site for purposes of constructing a generating facility; and (3) any other business relationship that, in the sole discretion of PG&E, amounts to the same right to develop property as provided in examples (1) or (2) above, between the Participant and another entity that has the right to sell, lease, or grant the right to possess or occupy the site for such a purpose.

Please note that these site control requirements may differ from those required in the interconnection process to achieve a deemed complete status.

3. Experience

A minimum level of developer experience is required for participation in this solicitation. Specifically, the Participant and/or a member of Participant's project development team must have either completed or begun construction of at least one other project of similar technology and capacity. PG&E considers a project to have begun construction if the developer has issued a full notice to proceed to its EPC contractor.

4. Commercialized Technology

The Participant must show that the Project employs technology currently in use at a minimum of two operating facilities of similar capacity worldwide.

5. Commencement of Commercial Operation Deadline

New Projects must achieve commercial operation within 36 months of the Effective Date of the associated PPA, subject to a six month extension for the specific reasons described in the PPA. Existing Projects must be able to begin commercial operation within 12 months of the Effective Date of the associated PPA. Sellers can request a one-time request for this extension by providing a notice 60 days prior to the guaranteed commercial operation date. Sellers that cannot place the Project into commercial operation by this deadline will be in default under the PPA.

Participation in Other Procurement Programs

Neither the Participant nor the owner of the site may sell any Product from the Project, either currently or at any time during the term of the PPA, pursuant to the Net Energy Metering tariff.

Participation in Future Solicitations

A Participant may submit offers for a Project in a future solicitation notwithstanding the Participant's withdrawal of the Project's Offer from this RFO prior to the execution of a PPA. Additionally, Offers that are not selected in this RFO may be bid again into future solicitations.

IV. Evaluation Criteria

Once Participants have met the eligibility requirements set forth in Section III, above, PG&E will use the evaluation criteria discussed in Section IV as the factors in selecting Offers.

PG&E will use the Commission approved LCBF methodology, pursuant to D.14-11-042, which includes a preference for shorter delivery terms.[12] Additionally, preference will be given to projects that commit to exceeding the minimum fuel requirements.[13] Consideration will also be given to project proximity to high hazard fuel zones.

Least-Cost-Best-Fit

PG&E will evaluate and select eligible Offers based on LCBF criteria, which includes Market Valuation, Transmission Network Upgrade Costs, Location, PAV and Supplier Diversity.

[12] Attachment K from the 2014 RPS RFO Protocol outlines a complete and detailed description of PG&E's Least Cost Best Fit Evaluation Criteria and is available at: http://www.pge.com/includes/docs/pdfs/b2b/wholesaleelectricsuppliersolicitation/RPS2014/Attachment_K_LCBF_01052015.pdf. Note that Table 1 may be updated. PG&E's LCBF methodology includes a qualitative preference for Offers of less than 20 years in duration (p. 15) and allows for qualitative consideration of a project's location consistent with RPS goals (p. 16). In the case of this solicitation, PG&E intends to exercise its discretion to consider location to give a qualitative preference for facilities in closer proximity to high hazard fuel zones, consistent with the goals of the Governor's Emergency Proclamation dated October 31, 2015.

[13] Resolution E-4770 at p. 12.

Each Offer will be assessed on each of the criteria described in this section.

A. Market Valuation

Market Valuation compares an Offer's costs to its market value. Pursuant to D.12-11-016, NMV is calculated for each Offer as follows:

Net Market Value: R = (E+C)-(P+T+G+I)

Adjusted Net Market Value: A = R+S

Where:

E = Energy Value
C = Capacity Value
P = Post-Time-Of-Delivery (TOD) Adjusted Power Purchase Agreement (PPA) Price
T = Transmission Network Upgrade Cost
G = Congestion Cost
I = Integration Costs[14]
S = Ancillary Service Value

The risks and uncertainties associated with an Offer's costs and benefits will be considered as part of Market Valuation. These costs and benefits do not include the costs and benefits associated with an Offer's impact on PG&E's portfolio.

1. Energy Value

PG&E will assess the market value of the energy deliveries based on the hourly generation profile of the Offer, initial energy delivery date, delivery term of the Transaction, and delivery location. The market value of the energy will be based on the appropriate forward price curves for the corresponding Trading Hub. The Loss multipliers will be used to incorporate losses specific for the location. With Buyer Curtailment, the energy value will include the expected value of Buyer Curtailments for avoiding (presumably negative) wholesale market spot price for the generation from the project.

2. Capacity Value

The value of capacity, including local reliability benefits, associated with each Offer will be determined based on the projected monthly quantity of qualifying capacity. Resources with an expected finding of full capacity deliverability from the CAISO will be attributed the full capacity value. To the extent that an Offer provides flexible capacity, the capacity that is expected to count for flexible RA will be evaluated at the projected monthly

[14] Integration Costs are assumed to be zero for baseload resources.

premium for flexible RA and added to the Capacity Benefit. It will be assumed that the qualifying capacity is zero for energy-only deliveries.

3. Ancillary Services

Ancullary Services (A/S) value will be assessed based on the A/S capability of the Offer. For Offers that provide PG&E the ability to schedule A/S and receive market revenues, the incremental benefit of having A/S capability will be captured, not to be double counted with the Energy Value.

4. Post-Time-Of-Delivery (TOD) Adjusted Power Purchase Agreemetn (PPA) Price

PG&E will calculate the Post-TOD Adjusted PPA Price, including debt equivalence costs, based on the hourly generation profile of the Offer, initial energy delivery date, delivery term of the Transaction, and the Offers contract price. For Dispatchable products, fixed payment calculated from the fixed capacity and Offer's fixed capacity price ($/kW-yr) under the Offer will also be added to the Post-TOD Adjusted PPA price after being levelized by the energy quantity.

5. Transmission Network Upgrade Cost

PG&E will use results from Participants' interconnection studies to calculate the Transmission Network Upgrade Cost adder. The refundable portion of the costs of Network Upgrades are included in transmission rates and paid by customers. Transmission cost adders reflect the cost of incremental, refundable Network Upgrades borne by customers. For projects that are fully deliverable, PG&E will consider the refundable portion of both Reliability and Delivery Network Upgrades. For energy-only Projects, PG&E will consider only the refundable portion of Reliability Network Upgrades when calculating a transmission adder.

6. Congestion Cost

Congestion cost will be calculated based on the hourly generation profile of the Offer, initial energy delivery date, delivery term of the Transaction, and delivery location. The Congestion Cost will be positive if the project is located in an area where the transmission lines are constrained due to serving loads outside of the area from the generation within the area. The Congestion Cost will be negative if the project is located in an area where the transmission lines are constrained due to serving loads within the area from the generation outside of the area. Congestion Cost multipliers will be used to incorporate congestion costs specific for the location.

B. Portfolio Adjusted Value

Portfolio Adjusted Value ("PAV") consists of several components, however with respect to the BioRAM solicitation, location will be the primary quantitative consideration.

1. Location

PG&E has a preference for projects in its service territory. This preference is influenced by constraints in the market that may limit the amount of capacity in SP15 that PG&E can count toward its RA requirement. Capacity located closer to PG&E's load is likely to have more value for PG&E's bundled electric portfolio, even when market forward prices indicate that energy delivered farther away has greater Market Value. The long-term risk for PG&E's customers is less when resources are located within PG&E's service territory rather than outside of PG&E's service territory. The calculation of PAV effectuates this by adjusting the value of energy and capacity for offers from resources in SP15. Offers for RPS energy from resources in NP15 will have an equal or higher PAV than comparable offers from resources in SP15.

PG&E reserves the right to reject Offers if they are uncompetitive with other options, including offers received in other PG&E non-RAM solicitations, or if there is evidence of market manipulation.

Resource Adequacy Benefit

For Projects that provide full or partial deliverability, PG&E will assume that new resources achieve full or partial capacity deliverability status on the date of the deliverability stated in the Offer, and the applicable RA benefit will be included from this date through the remaining term.

As described in Resolution E-4489, PG&E will evaluate the capacity benefits of a proposal by applying the monthly Net Qualifying Capacity ("NQC") to PG&E's forecast of avoided capacity costs. Due to the RA capacity constraint that currently exists on projects that are located in SP15, PG&E currently discounts the capacity value of SP15 resources and is expected to assign different values to projects that have delivery points located in NP15 versus SP15. This constraint may change in the future.

Supplier Diversity

It is the policy of PG&E that Women-, Minority-, service Disabled Veteran-, and Lesbian, Gay, Bisexual and/or Transgender-owned Business Enterprises, as verified pursuant to the procedures prescribed in Section 2 of CPUC General Order 156 ("WMDVLBE") shall have the maximum practicable opportunity to participate in this RFO and other competitive solicitations. PG&E will evaluate each offer and how it contributes to PG&E's supplier diversity goals. The supplier diversity evaluation will take into account the Participant's status as a WMDVLBE and/or intent to subcontract to WMDVLBEs. Offers must include documentation of the Participant's WMDVLBE status in the offer form provided at Appendix A to this solicitation. The PPA has been updated to require compliance with PG&E's Supplier Diversity program and periodic reporting on diverse spend.

V. Guidelines for Offer Development

Price

Participants must submit with their Offer their best and final price using the Energy Pricing Sheet of the Offer Form in Appendix A to this solicitation. PG&E will not consider updated or "refreshed" price offers submitted after the Offer submittal deadline. The Product price must be stated in annual $/MWh and may be escalated over the term of the PPA. Product quantities can vary annually to reflect degradation of the facility, if applicable.

Pursuant to the PPA, Sellers will be paid the contract price multiplied by the applicable TOD factor for each hour. For purposes of bid evaluation, PG&E will levelize bid prices after applying the applicable standard Time of Delivery ("TOD") factors as specified below to compare all offers on a consistent basis.

The price submitted by Participant for an Offer must include, without limitation, the following: (a) all awards, subsidies, and tax credits with respect to the Project, (b) all other benefits that Participants expects to apply, (c) any costs incurred by Participant, including any interconnection costs, (d) the acceptance, without reservation or revision, of the non-price terms and conditions in the PPA and fuel acquisition costs, and (e) the assumption that the Product price will be adjusted in each hour of delivery by the Time of Delivery (TOD) factors set forth in the table below by PG&E.

Existing resources bidding in a five-year Delivery Term with Extension Option should include 10 years worth of prices in their offer to address the possibility of a PPA extending beyond 5 years. PG&E has the right to exend PPAs from existing facilities that have an executed PPA for a five-year Delivery Term with Extension Option on a year-by-year basis up to a cumulative total of ten years so long as the State of Emergency remains in effect.

Time of Delivery

Time of Delivery (TOD) Periods and Factors

TOD FACTORS FOR EACH TOD PERIOD			
Period	**1. Peak**	**2. Mid-Day**	**3. Night**
A. July - September	1.479	0.604	1.087
B. October - February	1.399	0.718	1.122
C. March - June	1.270	0.280	1.040

TOD factors shown are consistent with factors approved in the 2015 RPS Decision D.15-12-025.

Definitions:

1. **Peak** = hours ending 17-22 (Pacific Prevailing Time (PPT)) all days in the applicable Monthly Period.

2. **Mid-Day** = hours ending 10-16 PPT for all days in the applicable Monthly Period.

3. **Night** = hours ending 23-09 PPT all days in the applicable Monthly Period.

PPA Terms and Conditions

PG&E strongly encourages all Participants to review the form PPA and expects all Participants to be able to perform ALL obligations under the PPA.

Any successful Offers must be formalized by the execution of a final PPA. PG&E has provided a form PPA in Appendix B to this solicitation, and the summary of certain terms within the PPA provided in this section of the protocol is not meant to provide a substitute for a careful review of the actual PPA. In the case of any conflict between this protocol and the PPA, the PPA will control.

The terms and conditions of the form PPA are non-negotiable. All project-specific information should be included in the cover sheet.

PG&E will provide a five year contract as an option for existing facilities, and Buyer will have the right to extend the five-year contract term for one year at a time, up to a cumulative total of ten years as long as the State of Emergency remains in effect. The delivery term will commence on the first date that the Participant delivers the Product to PG&E from the Project.

The PPA requires PG&E's counterparty to submit a project development milestone timeline (Section B(i)(b) in the Cover Sheet of the PPA) upon execution of the PPA and to provide progress reports to PG&E (as outlined in Section 3.9(a)(vii) and 3.9(a)(viii) in the PPA) on the Project's progress towards the achievement of the development milestones until the project begins energy deliveries.

For Projects being bid as fully or partially deliverable, the PPA includes an estimate of when full or partially capacity deliverability status will be attained. Seller is contractually bound by the estimate. If Seller has not achieved full or partial capacity deliverability status consistent with that in the Offer by the designated time, then the

Seller will be subject to contractual penalties.

The PPA requires a Participant to post collateral in the form of cash or letter of credit from a reputable U.S. bank in the following amounts and by the time discussed below:

> **Project Development Security:** $90 per kW for Baseload facilities, due within five (5) Business Days following CPUC Approval of the PPA. The development deposit will be refunded upon Commercial Operation Date or applied to the subsequent Performance Deposit.
>
> **Delivery Term Security:** An amount equal to the higher of 5% of expected total Project revenues, or one year of revenue at (Contract Price $/MWh-$89.23/MWh), due on the Commercial Operation Date. 5% of total revenue is equal to 6 months of revenue for a 10 year PPA.

Under the PPA, the Project Development Security will be retained by PG&E in the event that the Project should fail to come online by the contractual deadline. Delivery Term Security will be held throughout the delivery term.

VI. Information Regarding Interconnection to PG&E's Electric System and Interconnection Screens

Many factors influence the feasibility and cost of interconnecting generating facility systems to an electric system. These factors include, but are not necessarily limited to, the size and type of the system, substation and circuit load and capability, voltage regulation and voltage flicker.

Electric Generation Interconnection Services

New facilities must achieve commercial operation within 36 months of the Effective Date of the associated PPA. For existing facilities, projects must be able to begin commercial operation within 12 months of the Effective Date of the associated PPA.

Sellers are responsible for understanding the relevant interconnection procedures and ensuring they can interconnect within the mandated timelines.

Information regarding interconnection to the PG&E Electric Grid is available at the following site: http://www.pge.com/wholesale/. Any interconnection questions should be directed to PG&E's Electric Generation Interconnection department at the email address: wholesalegen@pge.com.

Any application for interconnection to the transmission system must be directed to the CAISO in accordance with the CAISO Tariff. For more information, please refer to the CAISO Tariff via the CAISO website at:

http://www.caiso.com/planning/Pages/GeneratorInterconnection/Default.aspx.

For interconnection applications to SCE's or SDG&E's Distribution Grid, seller should contact the applicable Distribution Provider representative.

VII. Required Information

Submission Overview

All Offer submittal information pertaining to this RFO will be hosted on the Power Advocate site. In order to participate in this RFO, Participants must register through Power Advocate at the Public Registration Link:

https://www.poweradvocate.com/pR.do?okey=58234&pubEvent=true

PG&E strongly encourages Participants to register with Power Advocate well before Offers are due. PG&E will be posting the detailed instructions for submitting Offer(s) and using the on-line platform on PG&E's website prior to Offer submittal.

Electronic Documents: The electronic documents for the attachments must be in a Microsoft Word, Excel file or Adobe Acrobat PDF file as applicable. The Participant should not provide documents in other electronic formats and versions. For each document, please include a company name in each file name. **Telephonic, hardcopy or facsimile transmission of an Offer is not acceptable.**

Required Forms

The following documents, which are located in the Appendices to this solicitation, must be completed and included with each Offer:

1. **Completed Offer Form, Developer Experience Form and Supplier Diversity Form (Appendix A to this solicitation).** Participant must provide a complete Offer form. Please provide all applicable information requested in the form and include the Project's expected generation profile, CAISO or utility cost estimate for the needed network upgrade costs. Participant must also include the interconnection queue position, WMDVLBE and if any plans to engage in activites that support PG&E's supplier diversity goals on the Offer form. Format: MS Excel

2. **A Completed PPA Cover Sheet (Appendix B to this solicitation).** The cover sheet includes spaces for contract capacity, project vintage, milestones, and supplier diversity spend. Other mark-ups are not permitted and will result in rejection of the Offer. Format: MS Word

3. **A Completed PPA Appendix XIII of the PPA.** This appendix includes spaces for all of the project specifications. Other mark-ups are not permitted and will result in rejection of the Offer. Format: MS Word.

4. **Site Control Questionnaire and Attestation (Appendix C to this solicitation)**. Participant must attest to site control and provide a map showing site location and key project facilities. The map should show the project boundary, and gen-tie route from the project to the first point of interconnection with the electric grid. The map should be provided in one of the following file formats: (1) Google kml/kmz, (2) ESRI geodatabase (mdb or .gdb) (3) a shapefile with file extension .shp plus at least the 3 supporting files (.shx, .dbf, .sbn). Format: Applicable GIS data file format

5. **Acknowledgement and Commitment of Site Owner Letter (Appendix D to this solicitation)**. **This only applies to projects that are 5 MW or less.** The owner of the site on which Participant's Project is proposed to be located must attest to familiarity with NEM alternatives, as applicable. The Participant and the owner of the site must also commit not to sell Product from the Project under this program alternative throughout the term of the PPA, if executed. Format: PDF
6. **Interconnection Studies**. Participants must have an executed Interconnection Agreement, a completed Phase II interconnection study[15] (or equivalent[16]), or documentation showing that the Project passed the Distribution Provider or CAISO Fast Track screens[17] at the time of Offer submittal. Format: PDF or MS Word.

   Participants offering fully or partially deliverable resource must provide documentation that the Project has received the FCDS or PCDS or provide documentation that the project is in the process of obtaining that deliverability, including any submitted requests for deliverability to the CAISO. The Participant must provide evidence of at least one of the following:

   a) An executed Interconnection Agreement or Amendment to an Interconnection Agreement that reflects the offered deliverability status[18];
   b) Application for deliverability with a **completed** deliverability study (i.e., Phase II study or equivalent) with a deliverability status that matches the Offer;
   c) A **completed** deliverablity assessment in the annual process that indicates that the project is deliverable pursuant to ISO Tariff Section 9.2 of Appendix DD; or

[15] Passing of an Electrical Independence Test is not sufficient unless the Project has a completed Phase II interconnection study or equivalent.
[16] For example, a Facilities Study.
[17] *Submission* of an Interconnection Request into a Fast Track process is not sufficient unless the project has *passed* the Fast Track screens or has a completed study equivalent to a Phase II interconnection study.
[18] Where the Interconnection Agreement does not reflect the Deliverability offered, the Participant must provide additional documentation from the CAISO verifying the deliverability

d) Documentation that the Project has **received** deliverability through the CAISO's Deliverability for Distribution pursuant to ISO Tariff Section 40.4.6.3.

Providing documentation that an application or request for FCDS or PCDS has been submitted through any CAISO annual process is **not** sufficient **unless** there is a finding of deliverability at the time of Offer submittal. Projects bid in as fully-deliverable must be fully deliverable by the date of deliverability designated in the Offer and need not be fully deliverable as of commercial operation.

Projects bidding as energy-only do not have to provide any deliverability studies.

VIII. Offer Selection

PG&E will select Offers according to the evaluation criteria described in Section IV. PG&E plans to notify selected Participants by e-mail according to the schedule described above.

PG&E may place some offers on a waitlist. Any waitlisted Participants would be selected in order of priority should any one of the selected Offers fail to return an executed PPA pursuant to the schedule outlined above.

IX. Regulation

Confidentiality

After contract execution, PG&E plans to submit executed PPAs to the CPUC for approval via a Tier 2 advice letter filing. By participating in the RFO, each Participant acknowledges and expressly authorizes PG&E to publicly disclose the following information as required by the Commission RAM Decision 10-12-048: (1) names of the companies that submitted Offers into PG&E's RAM RFO; (2) number of Offers received by each company; (3) number of Offers received and shortlisted by PG&E; (4) Project size; (5) participating technologies; (6) the number of Projects which passed the project viability screen; (7) location of bids by county level shown in a map format; and (8) the progression of each executed contract's project development milestones.

Except with PG&E's prior written consent, no Participant shall collaborate on or discuss with any other Participant or potential Participant bidding strategies, the substance of any Offer(s), including without limitation the price or any other terms or conditions of any Offer(s), or whether an Offer has been selected.

All information and documents in Participant's Offer clearly identified and marked by Participant as "Proprietary and Confidential" on each page on which confidential information appears, shall be considered confidential information. PG&E shall not disclose such confidential information and documents to any third parties except for PG&E's employees, agents, counsel, accountants, advisors, or contractors who have a need to know such information and have agreed to keep such information confidential and except as provided otherwise in this section. In addition, Participant's Offer will be disclosed to the IE.

Notwithstanding the foregoing, it is expressly contemplated that the information and documents submitted by Participant in connection with this RFO may be provided to the CPUC, its staff, and the Procurement Review Group ("PRG"), established pursuant to D. 02-08-071. PG&E retains the right to disclose any information or documents provided by Participant to the CPUC, the PRG, the California Energy Commission ("CEC") and to any other entity in order to comply with any applicable law, regulation, or any exchange, control area or CAISO rule, or order issued by a court or entity with competent jurisdiction over PG&E at any time even in the absence of a protective order, confidentiality agreement, or nondisclosure agreement, as the case may be, without notification to Participant and without liability or any responsibility of PG&E to Participant. PG&E cannot ensure that the CPUC will afford confidential treatment to Participant's confidential information, or that confidentiality agreements or orders will be obtained from and/or honored by the PRG, the CEC, or the CPUC. By submitting an Offer, Participant agrees to the confidentiality provisions described in this section.

The treatment of confidential information described above shall continue to apply to information related to Projects that are selected in this RFO and formalized through execution of a PPA.

Changes to RFO

By responding to this RFO, each Participant agrees to be bound by all terms, conditions and other provisions of this RFO and any changes or supplements to it that may be issued by PG&E.

X. Communications

PG&E has established the BioRAM RFO website at www.pge.com/rfo/BioRAM where Participants may register and where all the RFO documents, information, announcements and Q&As are posted and available to Participants.

To promote accuracy and consistency of the information provided to all Participants, PG&E encourages Participants to submit any inquiries via e-mail directed to RAMRFO@pge.com for matters related to BioRAM procurement. With respect to matters of general interest raised by any Participant, PG&E may, without reference to the specific Participant raising such matter or initiating the inquiry, post responses on its website. PG&E may, in its sole discretion, decline to respond to any email or other inquiry without liability or responsibility.

Any exchange of material information regarding this RFO between Participant and PG&E must be submitted to both PG&E and the Independent Evaluator. The IE for this RFO is Lewis Hashimoto from Arroyo Seco Consulting. Participants should copy Lewis Hashimoto at arroyosecoconsulting@gmail.com.

PG&E may elect to respond to inquiries or comments by individual Participants concerning purely procedural or administrative matters, but may also decline to do so in its sole discretion without liability or responsibility.

XI. Submission of Signed PPAs

Within ten (10) calendar days of Offer selection, Participants that wish to continue in this RFO must submit a signed PPA and required documentation for each selected Project meeting all RFO conditions via the Power Advocate on-line platform.

XII. Procurement Review Group Review

Following completion of the evaluation and rankings of Offers, PG&E will submit the results of the evaluation and its recommendations to its PRG members. PG&E will consider any alternative recommendations proposed by the PRG. PG&E, in its sole discretion, shall determine whether any alternatives proposed by the PRG should be adopted. PG&E has no obligation to obtain the concurrence of the PRG with respect to any Offer.

PG&E assumes no responsibility for the actions of the PRG, including actions that may delay or otherwise affect the schedule for this Solicitation, including the timing of the selection of Offers and the obtaining of Regulatory Approval.

XIII. Regulatory Approval

The effectiveness of any executed PPA is expressly conditioned on PG&E's receipt of final and non-appealable CPUC Approval of such PPA.

XIV. Participant's Waiver of Claims and Limitations of Remedies

Except as expressly set forth in this Protocol, by submitting an Offer, Participant knowingly and voluntarily waives all remedies or damages at law or equity concerning or related in any way to the RFO, the RFO Protocol and/or any attachments to the RFO Protocol ("Waived Claims"). The assertion of any Waived Claims by Participant may, to the extent that Participant's Offer has not already been disqualified, automatically disqualify such Offer from further consideration in the Solicitation or otherwise.

By submitting an Offer, Participant agrees that the only forums in which Participant may assert any challenge with respect to the conduct or results of the RFO is in the proceeding related to D.10-12-048 adopted on December 17, 2010, or through the alternative dispute resolution ("ADR") services provided by the CPUC pursuant to Resolution ALJ-185, August 25, 2005. The ADR process is voluntary in nature, and does not include processes, such as binding arbitration, that impose a solution on the disputing parties. However, PG&E will consider the use of ADR under the appropriate circumstances. Additional information about this program is available on the CPUC's website at the following link:

www.cpuc.ca.gov/PUBLISHED/Agenda_resolution/47777.htm.

Participant further agrees that other than through the ADR process, the only means of challenging the conduct or results of the Solicitation is a protest to an Advice Letter seeking approval of one or more PPAs entered into as a result of the RFO, that the sole basis for any such protest shall be that PG&E allegedly failed in a material respect to conduct the RFO in accordance with this Protocol, and the exclusive remedy available to Participant in the case of such a protest shall be an order of the CPUC that PG&E again conduct any portion of the RFO that the CPUC determines was not previously conducted in accordance with the RFO Protocol. Participant expressly waives any and all other remedies, including, without limitation, compensatory and/or exemplary damages, restitution, injunctive relief, interest, costs, and/or attorneys fees. Unless PG&E elects to do otherwise in its sole discretion during the pendency of such a protest or ADR process, the RFO and any related regulatory proceedings related to the RFO will continue as if the protest had not been filed, unless the CPUC has issued an order suspending the RFO or PG&E has elected to terminate the RFO.

Participant agrees to indemnify and hold PG&E harmless from any and all claims by any other Participant asserted in response to the assertion of a Waived Claim by Participant or as a result of a Participant's protest to an advice letter filing with the CPUC resulting from the RFO.

Except as expressly provided in this Protocol, nothing herein, including Participant's waiver of the Waived Claims as set forth above, shall in any way limit or otherwise affect the rights and remedies of PG&E. Nothing in this Protocol is intended to prevent any Participant from informally communicating with the CPUC or its staff regarding this RFO or any other matter.

XV. Termination of the RFO-Related Matters

PG&E reserves the right at any time, in its sole discretion, to terminate the RFO for any reason whatsoever without prior notification to Participants and without liability of any kind to or responsibility of PG&E or anyone acting on PG&E's behalf. Without limitation, grounds for termination of the RFO may include the assertion of any Waived

Claims by a Participant or a determination by PG&E that, following evaluation of the Offers, there are no Offers that are cost competitive.

PG&E reserves the right to terminate further participation in this process by any Participant, to evaluate the qualifications of any Participant, and to reject any or all Offers, all without notice and without liability to PG&E or anyone acting on PG&E's behalf.

In the event of termination of the RFO for any reason, PG&E will not reimburse the Participant for any expenses incurred in connection with the RFO regardless of whether such Participant's Offer is selected, not selected, rejected or disqualified.

Unless earlier terminated, the RFO will terminate automatically upon the execution of one or more PPAs by selected Participants as described herein. In the event that no PPAs are executed, then the RFO will terminate automatically on 12 months after issuance of the RFO.

XVI. Participant's Representations and Warranties

Breach by any Participant of the representations and warranties of the RFO Attachments is, in addition to any other remedies that may be available to PG&E under applicable law, grounds for immediate disqualification of such Participant from participation in the RFO, and depending on the nature or severity of the breach, may also be grounds for terminating the RFO in its entirety.